COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EDMONSON COUNTY WATER DISTRICT, EDMONSON COUNTY, KENTUCKY, FOR A CERTIFICATE OF CONVENIENCE AND NECESSITY AUTHORIZING SAID DISTRICT TO CONSTRUCT ADDITIONS, EXTENSIONS AND IMPROVEMENTS TO ITS EXISTING MUNICIPAL WATER DISTRIBUTION SYSTEM PURSUANT TO THE EXPRESS PROVISIONS OF CHAPTER 74 OF THE KENTUCKY REVISED STATUTES; SEEKING APPROVAL FOR THE ISSUANCE OF CERTAIN SECURITIES AND THE RECEIPT OF CERTAIN GRANTS; AND SEEKING TO CONTINUE THE SAME SERVICE RATES AND CHARGES UNLESS CHANGES ARE FOUND TO BE NECESSARY	CASE NO. 10103

O R D E R

IT IS ORDERED that Edmonson County Water District ("Edmonson") shall file an original and seven copies of the following information with the Commission with a copy to all parties of record no later than January 8, 1988. If the information cannot be provided by this date, Edmonson should submit a motion for an extension of time stating the reason a delay is necessary and include a date by which it will be furnished. Such motion will be considered by the Commission. Edmonson shall furnish with each response the name of the witness who will be available at the public hearing for responding to questions concerning each item of information requested.

1. In order to obtain realistic results when utilizing computer hydraulic analyses to predict a water distribution system's

performance, engineering references stress the importance of calibrating the results predicted to actual hydraulic conditions. This calibration process should include matching field measurements to the results predicted by the computer over a wide range of actual operating conditions. As a minimum this should include average and maximum water consumption periods, as well as "fire flow" or very high demand periods.

Based on the above, explain the procedures used to verify the computer hydraulic analyses filed in this case. This explanation should be documented by field measurements, hydraulic calculations, etc.

2. The computer hydraulic analyses filed in this case for the existing and the proposed water distribution systems indicate that the potential exists for the system to experience low pressure (less than 30 psig) at Nodes 40, 51, 53, 54, 55, 81, 83, 84, 85 and 98. Pressures at this level are in violation of PSC regulation 807 KAR 5:066, Section 6 (1). Provide details of any preventive measures or additional construction Edmonson intends to perform to protect against this type of occurrence. Details should be documented by hydraulic analyses and field measurements. In addition state whether any complaints of low pressure have been received at these locations.

3. The computer hydraulic analyses filed in this case for the existing and proposed water distribution systems indicate that the potential exists for the system to experience high pressure (more than 150 psig) at Nodes 15, 16, 30, 41, 59, 77, 78, 79, 82, 95, 109 and 112. Pressures at this level are in violation of PSC

regulation 807 KAR 5:066, Section 6 (1). Provide details on any preventive measures or additional construction Edmonson intends to perform to protect against this type of occurrence. Details should be documented by hydraulic analyses and field measurements.

4. The computer hydraulic analyses filed in this case for both the existing and the proposed water distribution systems depict the Bee Springs pump "operating out of range." This would indicate that this pump is unable to satisfy the system's hydraulic conditions as input. State whether this type operation actually occurs and if it does, state what preventive measures or additional construction Edmonson intends to perform to protect against this type of occurrence. In addition, provide pressure recording charts on the suction and discharge sides of this pump and any other measurements to demonstrate the actual operation of this pump station. The pressure recording charts should show the actual 24-hour continuously measured pressure available. Identify the 24-hour period recorded, the exact locations of the pressure recorders and the sea level elevations of the recorders. Also state the schematic junction numbers nearest the location of the pressure recorders.

5. The engineering information submitted with the application indicates that Edmonson is proposing to install approximately 3 fire hydrants as part of this project. KRS 227, the "Recommended Standards For Water Works" by the Great Lakes - Upper Mississippi River Board of State Sanitary Engineers ("Ten States Standards") and the Insurance Services Office ("ISO") all have requirements for providing fire protection. All of these

references require fire hydrant installation on a minimum of 6-inch diameter water lines. For residential construction, the ISO requires the capability to deliver between 500 and 1500 gallons per minute at a residual pressure of 20 pounds per square inch for a minimum of 2 hours from any fire hydrant. The Ten States Standards allow a fire hydrant on dead-end mains for flushing only if flow and pressure are sufficient. Otherwise an approved flushing hydrant or blow-off valve should be used. Based on the above, provide information as to the purpose of the proposed fire hydrants. If the purpose of the proposed fire hydrants is to provide fire protection, provide hydraulic analyses demonstrating the capability of Edmonson's system to comply with the requirements of KRS 227, the ISO and the Ten States Standards. If the fire hydrants are proposed for reasons other than fire protection state why other equipment was not considered (e.g. blow-off valves, drain valves, etc.).

6. The schematic for the computer hydraulic analyses indicates a proposed water storage tank at junction 56. The computer hydraulic analyses for both the existing and the proposed water distribution systems indicate that it is an existing tank. However, if this tank is part of the proposed construction project the bid documents do not reflect it, and the bid tabulations do not reflect receiving bids for this tank. Based on this, provide clarification on this matter.

7. Explain how the Hazen-Williams "C" factors which were used in the computer hydraulic analyses were determined. If flow tests were conducted, provide the flow test data.

8. Provide documentation of the Farmers Home Administration's approval of the proposed contractual and financial arrangements for the proposed construction.

9. Provide the rationale for utilizing the Edmonson County Water District Holding Company to borrow funds to finance the proposed construction instead of Edmonson borrowing funds to finance the proposed construction directly.

Done at Frankfort, Kentucky, this 23rd day of December, 1987.

PUBLIC SERVICE COMMISSION

Richard D. Heman Jr.
For the Commission

ATTEST:

Executive Director